
MANUAL PART NUMBER: 400-0002-003
PRODUCT REVISION: 1

# DA1206RM

# 1–IN, 2-OUT RGBS DISTRIBUTION AMPLIFIER USER'S GUIDE

ALTINEX
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## INTRODUCTION

Thank you for purchasing the **DA1206RM** Video Distribution Amplifier. We are sure you will find it reliable and simple to use.

Superior performance for the right price, backed by solid technical and customer support is what Altinex has to offer.

The product you are holding in your hands is designed using state-of-the-art technology and is superior to anything available on the market. You will find this and our other products reliable, long lasting, and simple to operate.

We are committed to providing our customers with signal management solutions to the most demanding audio-visual installations at very competitive pricing.

We appreciate your selection of our products and are confident that you will join the ranks of our many satisfied customers throughout the world.

**This manual covers:**

**DA1206RM –** 1-in, 6-out RGBS high-resolution video distribution amplifier.

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## PRECAUTIONS / SAFETY WARNINGS 1

Please read this manual carefully before using your **DA1206RM** Distribution Amplifier. Keep this manual handy for future reference. These safety instructions are to ensure the long life of your **DA1206RM** and to prevent fire and shock hazard. Please read them carefully and heed all warnings.

### 1.1 GENERAL

- Unauthorized personnel shall not open the unit since there are high-voltage components inside.
- Qualified Altinex service personnel, or their authorized representatives must perform all service.

### 1.2 SAFETY GUIDELINES FOR THE RACK-MOUNTING OF THE DA1206RM

- Maximum operating ambient temperature is 35 (degrees C).
- Never restrict the air flow through the devices' fan or vents.
- When installing equipment into a rack, distribute the units evenly. Otherwise, hazardous conditions may be created by an uneven weight distribution.
- Connect the unit to a properly rated supply circuit.
- Reliable Earthing (Grounding) of Rack-Mounted Equipment should be maintained.

### 1.3 INSTALLATION

- For best results, place the **DA1206RM** Distribution Amplifier on a flat, level surface in a dry area away from dust and moisture.
- To prevent fire or shock, do not expose this unit to rain or moisture. Do not place the **DA1206RM** Distribution Amplifier in direct sunlight, near heaters or heat radiating appliances, or near any liquid. Exposure to direct sunlight, smoke, or steam can harm internal components.
- Handle the **DA1206RM** Distribution Amplifier carefully. Dropping or jarring can damage internal components.
- Do not place heavy objects on top of the **DA1206RM**. If the **DA1206RM** is to be mounted, to a table or wall, use only Altinex made mounting accessories (Rack Mount Shelf **DA1298FC**, Rack Mount Ears **DA1299RM**) and cables for optimum setup.
- To turn off the main power, be sure to remove the cord from the power outlet. The power outlet socket should be installed as close to the equipment as possible, and should be easily accessible.
- Do not pull power cord or any cable that is attached to the **DA1206RM** Distribution Amplifier.
- If the **DA1206RM** Distribution Amplifier is not used for an extended period, disconnect the power cord from the power outlet.

### 1.4 CLEANING

- Unplug the **DA1206RM** power cord before cleaning. Clean surfaces with a dry cloth. Never use strong detergents or solvents, such as alcohol or thinner. Do not use a wet cloth or water to clean the unit.

### 1.5 FCC / CE NOTICE

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the

user will be required to correct the interference at his own expense.

- Any changes or modifications to the unit not expressly approved by Altinex, Inc. could void the user's authority to operate the equipment.

## ABOUT YOUR DISTRIBUTION AMPLIFIER 2

The **DA1206RM** Distribution Amplifier is designed to allow the connection of a single computer or other video source to as many as six scan-rate compatible display devices.

Though primarily designed to pass RGBS format signals, the **DA1206RM** can also pass RGsB, Component Video (Y, R-Y, B-Y), S-Video (Y/C), and Composite Video by using the appropriate analog channels (Red, Green, Blue).

The analog channels are designed to pass video levels up to 1.5V p-p offering a 0.15% differential gain and 0.16 degree differential phase to assure the highest quality video signal.

The **DA1206RM** offers switches for Gain, Sync Level, and Sync Polarity. The Gain switch boosts the output of the amplifier by 35% for use with long cable runs. The **DA1206RM** uses AGC (automatic gain control) circuitry, which converts all incoming sync levels to either 4V p-p or 2V p-p, selectable with the Sync Level switch. This enables it to be compatible, with both current and older display equipment. The Sync Polarity switch reverses the polarity of the incoming sync for compatibility with various displays

The **DA1203RM** Distribution Amplifier is a state-of-the-art product with a video bandwidth of 350 MHz, enabling it to remain transparent to the video signal passing through it. Each output is individually buffered and is not affected by other output loading.

The **DA1206RM** offers an internal 90-140/200-240V power supply and can be rack mounted using optional hardware accessories (**DA1299RM** – rack ears for single unit and **DA1298RM** – rack shelf for two units side-by-side).

## TECHNICAL SPECIFICATION 3

| FEATURES/DESCRIPTION | DA1206RM |
|---|---|
| **GENERAL** | |
| **Inputs** | 1 |
| Input Connector | 4-BNC Female |
| **Outputs** | 3 |
| Output Connectors | Three 4-BNC Female |
| **Compatibility** | High resolution RGBS, RGsB and RsGsBs, Component, S-Video and Composite Video |

Table 1. **DA1206RM** General

| MECHANICAL | DA1206RM |
|---|---|
| Material | 0.1" Al |
| Finish | Gray |
| Top Panel | Lexan |
| Height (inches) | 3.40in (86mm) |
| Width (inches) | 8.50in (216mm) |
| Depth (inches) | 4.75in (121mm) |
| Weight (pounds) | 2.6lbs (1.18kg) |
| Ship Weight (pounds) | 3.8lbs (1.73kg) |
| T° Maximum | 50°C |
| Humidity | 90% non-condensing |
| MTBF (calculations) | 40,000 hrs |

Table 2. **DA1206RM** Mechanical

| ELECTRICAL | DA1206RM |
|---|---|
| **Input Video Signal** | |
| Analog Signal | 1.5V p-p max |
| Impedance | 75 Ohms |
| **Input Sync Signal** | |
| Horizontal, Vertical, & C-Sync | TTL(+/-) |
| Sync on Green | -0.3V |
| Impedance | 10 k Ohms |
| **Output Video Signal** | |
| Analog Signal | 1.0V p-p/0.7V p-p |
| Fall/Rise Time (ns) | 1.4 |
| Impedance | 75 Ohms |
| **Output Sync Signal** | |
| Composite Sync | TTL(+/-) |
| Sync on Green | -0.3V |
| Impedance | 22 Ohms |
| **Frequency Compatibility** | |
| Typical Video Bandwidth | 380 MHz |
| Minimum Video Bandwidth | 350 MHz |
| Horizontal | 15-200 kHz |



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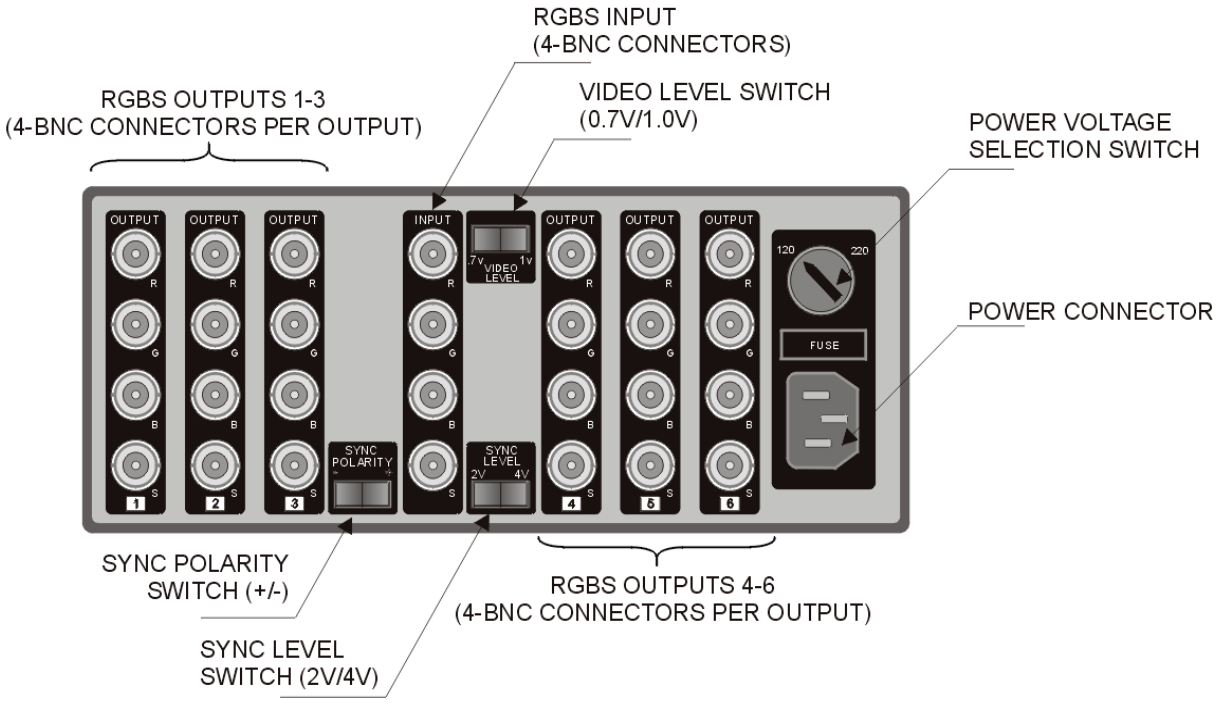
| | |
|---|---|
| Vertical | 47-180 Hz |
| **Power** | |
| Internal Power Supply | 90-140V/200-240V |

Table 3. **DA1206RM** Electrical



### FRONT PANEL OF DA1206RM


### BACK PANEL OF DA1206RM



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### 4.1 SYNC POLARITY SWITCH

The SYNC POLARITY switch is located on the back panel of the unit. It has two switching positions, one designated (+) and the other (-). By setting the sync polarity switch to (+) the signal is processed as unchanged and the sync polarity of the output signal is matched with the sync polarity of the unit. By setting the sync polarity to (-) the sync polarity of the output is changed to the opposite of the input.

### 4.2 SYNC LEVEL SWITCH

The SYNC LEVEL switch is also located on the back panel of the unit and has two positions for switching — a sync level of 2V and a sync level of 4V. Most often a 4V-sync level is used. This should be considered as the default setting. The 2V setting allows compatibility with some older equipment that would be overdriven if a stronger signal were used.

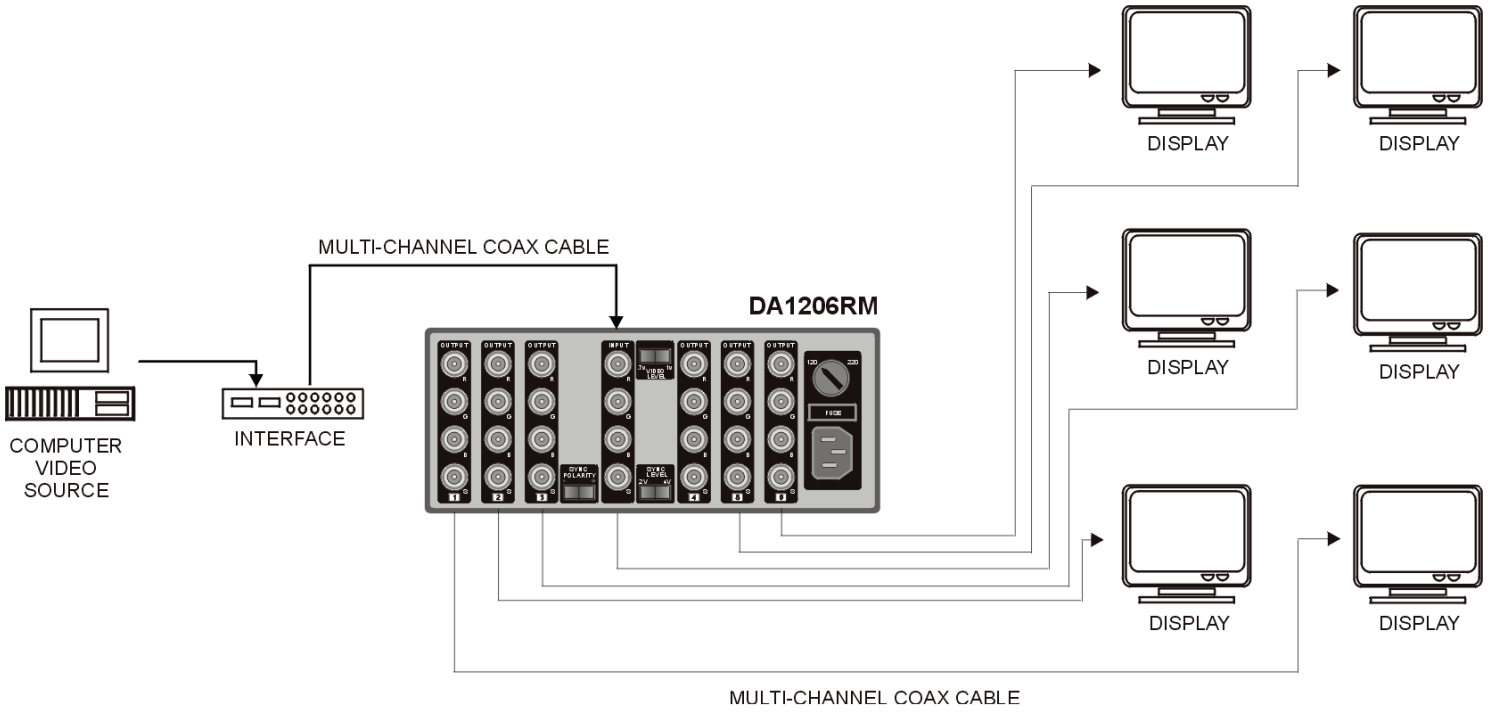
### 4.3 VIDEO LEVEL SWITCH

The VIDEO LEVEL Switch can be set to either the standard 0.7V output or to 1.0V output. When the switch is set in the 1.0V output position, this provides approximately a 35% increase in the video signal level. This can be used in installations where cable runs exceed 150 feet. It is not recommended that this switch be set in the 1.0V position for shorter cable lengths as the increased level may reduce the life of CRT displays if they are overdriven.

### 4.4 POWER

The **DA1206RM** offers an internal 90-140/200-240V power supply. A variety of different power supplies are available for international use.

## APPLICATION DIAGRAM 5



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## INSTALLING YOUR DISTRIBUTION AMPLIFIER 6

**Step 1.** Make sure that the proper power supply is being used with the unit. The use of an incorrect power supply can result in equipment damage not covered by warranty.

**Step 2.** Connect the power cord to the unit and plug it into the power outlet. The power indicator LED on the front panel will light. This indicates that the unit is operational.

**Step 3.** Connect the high resolution RGsB or RGBS source to the **DA1206RM** using coaxial cable with BNC connectors, making sure that the colors match correctly. Then connect one or two monitors or projectors to the output(s) of the **DA1206RM**. The monitors or projectors must be scan-rate compatible with the source signal - the **DA1206RM** does not affect scan rate.

**Step 5.** If the image is less than perfect, check all of the connections. Also, check the settings of the switches. The default setting is Sync Polarity (+), Sync Level (4V), Video Level (0.7V). Check all of the connections. The unit is very reliable and seldom will be the cause of malfunction. Poor quality cables may often degrade the performance of the product. Make sure that the cables used are coaxial cables and that all pins are in good condition.

**CONGRATULATIONS! YOU ARE DONE.**

**If you experience any problems, please call 1-800-258-4623 or 1-714-990-2300 for international calls.**

## OPERATION 7

The settings of the **DA1206RM** Distribution Amplifier can be adjusted using Input Termination, Video Level, and Sync Level switches as described in Section no. 4. There are no other adjustments necessary to operate the unit. The **DA1206RM** will operate successfully as long as cables are attached properly and other technical specifications are followed.

## ACCESSORIES 8

| Model No. | Description |
|---|---|
| | **TABLE MOUNT BRACKET** |
| **TM1276** | Table Mount Bracket for 2U High, ½ rack units |
| | **RACK MOUNTING BRACKETS** |
| **DA1298RM** | Rack Mount shelf for two units |
| **DA1299RM** | Rack Mount shelf for single unit |
| | **POWER CABLES** |
| **PC5301US** | 9V 500mA Power Supply for US |
| **PC5302UK** | 9V 500mA Power Supply for UK |
| **PC5303AU** | 9V 500mA Power Supply for Australia |
| **PC5304GR** | 9V 500mA Power Supply for Germany |
| | **HIGH RESOLUTION 4 BNC to 4 BNC COAXIAL CABLE** |
| **CB4100MR** | Bulk Cable 4 coaxes (500ft minimum) |
| **CB4103MR** | 3 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4106MR** | 6 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4112MR** | 12 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4125MR** | 25 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4150MR** | 50 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4175MR** | 75 feet, 4 BNC to 4 BNC coaxial cable |
| **CB41100MR** | 100 feet, 4 BNC to 4 BNC coaxial cable |
| **CB41150MR** | 150 feet, 4 BNC to 4 BNC coaxial cable |
| | **SUPER HIGH RESOLUTION 4 BNC to 4 BNC COAX CABLE** |
| **CB4300MR** | Bulk Cable 4 coaxes (500ft minimum) |
| **CB4306MR** | 6 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4312MR** | 12 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4325MR** | 25 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4350MR** | 50 feet, 4 BNC to 4 BNC coaxial cable |
| **CB4375MR** | 75 feet, 4 BNC to 4 BNC coaxial cable |
| **CB43100MR** | 100 feet, 4 BNC to 4 BNC coaxial cable |
| **CB43150MR** | 150 feet, 4 BNC to 4 BNC coaxial cable |

## FREQUENTLY ASKED QUESTIONS 9

| No: | Question | Answer |
|---|---|---|
| 1 | What is a Distribution Amplifier? | A Distribution Amplifier is a device that allows you to connect a single video source to multiple display devices, such as monitors or projectors used in presentation applications. |
| 2 | When should I use the **DA1206RM**? | In some cases, you need a non-simultaneous connection of a single C-Video source or a single S-Video source to as many as six different display or recording devices. |
| 3 | Which signal formats can be passed through the **DA1206RM**? | The **DA1206RM** can pass RGBS, RGsB, Component Video (Y, R-Y, B-Y), S-Video (Y/C), and Composite Video by using the appropriate analog channels (Red, Green, Blue). |
| 4 | When should I use "+" position of Sync Polarity switch? | By setting sync polarity switch to (+) the signal is processed as unchanged and the sync polarity of the output signal is matched with the sync polarity of the unit. By setting the sync polarity to (-) the sync polarity of the output is changed to the opposite of the input. |
| 5 | When should I use the Sync Level switch? | The SYNC LEVEL switch has two positions 2V and 4V. Most often a 4V Sync Level is used. This should be considered as the default setting. The 2V setting allows compatibility with some older equipment that would be overdriven if stronger signal is used. |
| 6 | What should I have when the Video Level switch is set in the 1.0V output position? | This provides approximately a 35% increase in the video signal level. This can be used in installations where cable runs exceed 150 feet. It is not recommended that this switch be set in the 1.0V position for shorter cable lengths as the increased level may reduce the life of CRT displays if they are overdriven. |

## TROUBLESHOOTING GUIDE 10

We have carefully tested and have found no problems in the supplied **DA1206RM** unit; however, we would like to offer the following suggestions:

- Please make sure that the input amplitude levels are as follows.
  1. Analog signal is less than 1.5V.
  2. Sync signal is less is than 0.3V.
- Please check the settings of the Sync level, the Video level, and the Sync Polarity Switches.
- Please make sure that the proper quality of cables is used. We recommend Altinex made cables for best results.
- If a problem arises after continuous usage at higher voltage, higher temperature, higher humidity, or at other extreme environmental conditions, please correct the problem.

## ALTINEX POLICY 11

### 11.1 LIMITED WARRANTY

Altinex warrants that its products and cables are free from defects in materials under normal use and service. This warranty is limited to repairing at company's factory any part or parts of the product, which upon company's examination shall disclose to be, thus defective. Products considered defective should be returned to company with transportation charges pre-paid within 2 years (90 days for cables) from date of shipment to the purchaser. The warranty is expressly instead of all other warranties expressed or implied. Altinex neither assumes nor authorizes any other person to assume for it any other liability in connection with the sale of the products. This warranty shall not apply to any product that shall have been repaired or altered outside of company's factory in any way so as, in its judgment, to affect its stability or reliability, or that has been subject to misuse, negligence or accident.

### 11.2 RETURN POLICY

It is very important to Altinex that you receive the product that you have ordered and that this product fulfills your need. In the unlikely event, that an Altinex product needs to be returned please follow the policies below:

Altinex will accept product returns for a period of 30 days from authorized Altinex dealers. Products must be returned in an unopened package.

If product has been opened, the restocking fees will apply. For the restocking fee amount, please contact an Altinex Sales Representative.

If product is in your possession for more than 30 days, the restocking fees will apply.

Altinex will not accept any returns on cables or custom products.

If your product is in warranty and needs service, contact the Altinex Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service.

If your product is out of warranty and needs service, contact the Altinex Sales Department for an RMA (Return Material Authorization). Products returned without an RMA number may experience a delay in service. The service charges will be quoted to you before the actual repairs are done.

### 11.3 CONTACT INFORMATION

**Sales Department**

| | |
|---|---|
| Phone: | 714-990-2300 |
| Fax: | 714-990-3303 |

**Accounting Department**

| | |
|---|---|
| Phone: | 714-990-6088 |
| Fax: | 714-990-5778 |